

### Abstract

The invention generally relates to the field of markup languages used to describe adaptive mobile multimedia applications and/or presentations being inherently dependent on the dynamic mobile environment they are running in, which means that these mobile multimedia applications and/or presentations need to be adapted to the preferences of mobile users, the capabilities of their mobile computing devices, and their current situation. It allows adaptive mobile stream-based multimedia applications with real-time requirements in a typical wireless scenario (e.g. a radio link with a changing transmission quality and hand-over procedures) to adaptively and responsively react to a time-varying network topology and different radio link characteristics. Thereby, the underlying invention especially includes research and development issues in the field of describing adaptation possibilities (1500), adaptation constraints (802) and adaptation events (3802) directed to a personalization and context-aware adaptation of document-based multimedia applications by providing methods for pre-allocating, reserving, monitoring and adapting QoS-related parameters in a dynamic mobile environment using an XML-based multimedia presentation language.

In this connection, a document model (100) consisting of vocabulary, document structure and linking means (1600) between the document model elements is presented which supports the description (700) of adaptive mobile multimedia applications and/or presentations. Besides, a document object model supporting a simplified transaction-oriented access is proposed.

FIG. 1